

What is claimed is:

1. An optical multiplexer/demultiplexer wherein an optical fiber, attached to a ferrule, for receiving and outputting light, a lens member and an optical component
5 are optically coupled,

said ferrule being formed of a synthetic resin and having at least one fiber hole formed therein.

Int. cl. 2. The optical multiplexer/demultiplexer according to claim 1, wherein said ferrule is formed cylindrical, a
10 plurality of fiber holes are formed and a pitch between adjoining fiber holes is set to less than 250 μm .

3. The optical multiplexer/demultiplexer according to claim 1, wherein a plurality of optical fibers are inserted in said at least one fiber hole.

15 4. The optical multiplexer/demultiplexer according to claim 2, wherein a plurality of optical fibers are inserted in said plurality of fiber holes.

20 5. The optical multiplexer/demultiplexer according to claim 1, wherein a jacket made of a metal or a non-ferrous metal is provided outside said ferrule.

6. The optical multiplexer/demultiplexer according to claim 2, wherein a jacket made of a metal or a non-ferrous metal is provided outside said ferrule.

25 7. The optical multiplexer/demultiplexer according to claim 3, wherein a jacket made of a metal or a non-ferrous metal is provided outside said ferrule.

8. The optical multiplexer/demultiplexer according to claim 5, wherein said ferrule is formed by insert molding of a synthetic resin and is provided inside said jacket.

30 9. The optical multiplexer/demultiplexer according to claim 6, wherein said ferrule is formed by insert molding of a synthetic resin and is provided inside said jacket.

10. The optical multiplexer/demultiplexer according

10029556-122001

copy to file
 to claim 7, wherein said ferrule is formed by insert molding of a synthetic resin and is provided inside said jacket.

11. The optical multiplexer/demultiplexer according to claim 5, wherein said ferrule and said jacket have rotation preventing means formed thereon.

12. The optical multiplexer/demultiplexer according to claim 6, wherein said ferrule and said jacket have rotation preventing means formed thereon.

13. The optical multiplexer/demultiplexer according to claim 7, wherein said ferrule and said jacket have rotation preventing means formed thereon.

14. The optical multiplexer/demultiplexer according to claim 1, wherein an end face of said ferrule is polished obliquely with respect to an optical axis of said optical fiber.

15. The optical multiplexer/demultiplexer according to claim 2, wherein an end face of said ferrule is polished obliquely with respect to an optical axis of said optical fiber.

16. The optical multiplexer/demultiplexer according to claim 3, wherein an end face of said ferrule is polished obliquely with respect to an optical axis of said optical fiber.

17. The optical multiplexer/demultiplexer according to claim 6, wherein an end face of said ferrule is polished obliquely with respect to an optical axis of said optical fiber.

18. The optical multiplexer/demultiplexer according to claim 5, wherein said ferrule is provided with a disengagement stopper having at least one portion so formed as to have an outside diameter greater than an inside diameter of said jacket.

10029556-122001

*Cont'd
p. 91* 19. The optical multiplexer/demultiplexer according
to claim 1, wherein said ferrule has a step portion formed
thereon.

20. The optical multiplexer/demultiplexer according
5 to claim 2, wherein said ferrule has a step portion formed
thereon.

21. The optical multiplexer/demultiplexer according
to claim 6, wherein said ferrule has a step portion formed
thereon.

10 22. The optical multiplexer/demultiplexer according
to claim 1, wherein said ferrule is formed into a quadratic
prism.

10029556-122001

add a'